REMARKS

Claims 1 and 4-15 are all the claims pending in the application.

I. Response to Rejection Under 35 U.S.C. § 103

Claims 1 and 4-15 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Toru et al (JP 2002-49156) ("JP '156") as evidenced by its machine assisted translation, in view of Aoai et al (U.S. Patent 5,837,420).

Applicants respectfully submit that the present claims are patentable over the cited references for at least the following reasons.

Applicants submit herewith a Declaration under 37 C.F.R. § 1.132 of Mr. Kazuyoshi Mizutani, a co-inventor of the present invention, to further support the patentability of the presently claimed invention.

As shown by the experimental data contained in the Declaration, the polymers used in the examples of JP '156 do not have a dispersion degree of 1.5 or below. Moreover, the presently claimed invention provides unexpectedly superior results over the prior art examples by using a polymer having a dispersion degree of 1.5 or below.

Specifically, in the Declaration, Synthesis Examples 1-3 of JP '156 (Resins R-1 to R-3) were repeated, and Resins R-1 to R-4 (R-4 was obtained from Nippon Soda) were used to prepare Polymers B-1 to B-10. Each of Polymers B-1 to B-10 (Comparative Examples I' to X') was shown to have a molecular weight dispersion degree of 1.90 to 2.35 (Table A below), which does not fall within the presently claimed range of 1.5 or below:

Table A

Repeated experiment of JP '156 (Comp. ex.)	Molecular weight	Molecular weight dispersion degree	In-vacuo PED	
			Line width change (nm)	LER
B-1 (I')	11000	1.95	1.8	8.1 → 8.5
B-2 (II')	16000	2.05	1.9	8.3 → 8.6
B-3 (III')	23000	2.20	1.8	8.4 → 8.8
B-4 (IV')	11500	2.20	1.9	8.1 → 8.6
B-5 (V')	15800	2.10	1.8	8.2 → 8.6
B-6 (VI')	24200	2.35	1.9	8.3 → 8.8
B-7 (VII')	11500	1.95	1.9	8.2 → 8.5
B-8 (VIII')	11200	2.00	1.8	8.9 → 9.2
B-9 (IX')	12400	1.95	1.8	8.7 → 9.0
B-10 (X')	13000	2.05	1.9	8.7 → 9.1

Next, Resins R-2 to R-4 described in the present specification were prepared and Resins R-1 to R-4 (R-1 was obtained from Nippon Soda) were used to prepare Resins B-1 to B-9 (Examples I to IX), each of which has a molecular weight dispersion degree of 1.10 to 1.50 (Table B below):

Table B

The present invention (Examples)	Molecular weight	Molecular weight dispersion degree	In-vacuo PED	
			Line width change (nm)	LER
B-1 (I)	9500	1.10	1.6	6.1 → 6.2
B-2 (II)	9700	1.15	1.7	6.4 → 6.5
B-3 (III)	11000	1.48	1.6	6.3 → 6.4
B-4 (IV)	11500	1.50	1.7	6.4 → 6.5
B-5 (V)	9500	1.20	1.6	6.7 → 6.9
B-6 (VI)	10500	1.50	1.7	6.5 → 6.6
B-7 (VII)	11000	1.48	1.6	6.7 → 6.8
B-8 (VIII)	11200	1.50	1.7	6.4 → 6.6
B-9 (IX)	12400	1.50	1.7	6.6 → 6.8

Comparative Examples I' to X' and Examples I to IX were then evaluated in terms of line width change and LER in vacuo PED in the same manner as described in the present specification. The results are summarized in the above Tables A and B.

As shown in the above tables, Comparative Examples I' to X' exhibited line width change of 1.8 to 1.9 nm and LER of 8.1 → 8.5 to 8.9 → 9.2, whereas Examples I to IX exhibited line width change of 1.6 or 1.7 nm and LER of 6.1 → 6.2 to 6.7 → 6.9. That is, Examples I to IX of the present invention are unexpectedly superior to Comparative Examples I' to X' of JP '156 in terms of line width change and LER. As a result, the present invention provides a resist composition which has specific effects for forming an image by irradiation with an electron beam, an X-ray or an EUV.

Neither JP '156 nor Aoai et al disclose or suggest the superior features of the present invention.

In view of the foregoing, Applicants respectfully submit that the present claims are not obvious over the cited references and thus the rejection should be withdrawn.

II. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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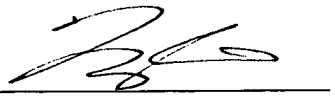
Respectfully submitted,



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